



ROSE

Effective Defense Against
Urban Pollutants



Cellular Barrier
Against Air
Pollution and Aging

ACTV
BIOTECH

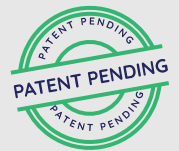
Effective Defense Against Urban Pollutants

Effects

- Shows strong antioxidant activity and protects the skin against oxidative stress caused by environmental pollutants.
- Reduces the harmful effects of external stress and pollutants by activating the cellular detoxification mechanism.
- Increases skin elasticity by stimulating elastin synthesis.
- Promotes cellular regeneration.
- Gives the skin a younger appearance, by increasing new collagen synthesis.

Origin

Developed from Rose damascena (Isparta Rose) stem cells using PoliCell® Technology.



What is PoliCell® Technology?

PoliCell® Technology enables to benefit the effects of plant stem cells and small RNAs in their vesicles.

Effect Mechanism

PoliCell® Rose contains enriched stem cell components and stem cell specific exogenous small RNAs thanks to the elicitor application.

What is the effect of small RNA?

Small RNAs, including miRNA are non-coding RNA fragments, which regulate the post-transcriptional silencing of target genes. Plant small RNAs may exert similar functions in both human and plant. This provides exogenous plant small RNAs to play a key role on the physiological function of the human body, including the skin.



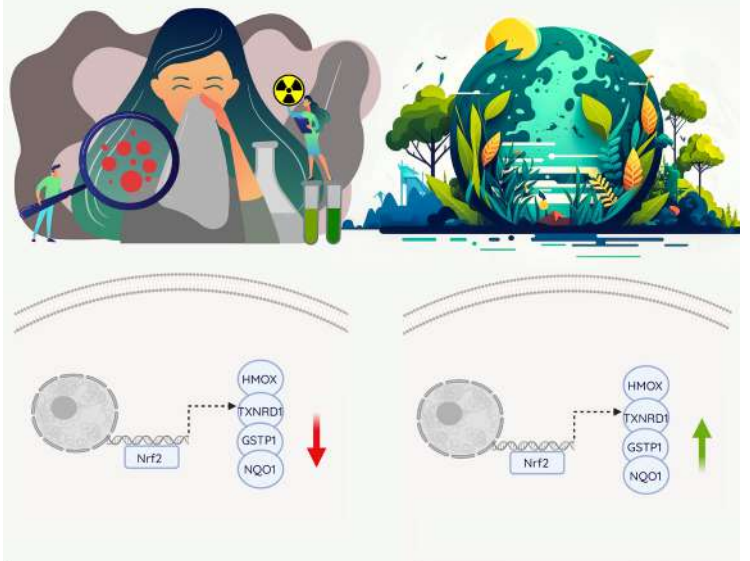
Activity Tests

In vitro Tests

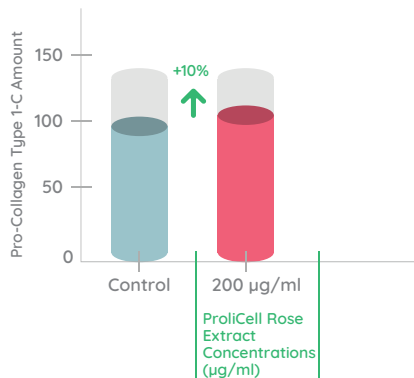
Cell Line: Human normal fibroblast cells
Test Ingredient: 100 ve 200 µg/ml ProliCell Rose extract
Parameter: Analysis of COL1A1 and ELN gene expression by RT-qPCR
 Determination of Pro-Collagen Type 1-C expression by ELISA method

For gene expression analyses, human normal fibroblast cells were incubated with ProliCell Rose concentrations for 24 hours.

Mechanism of Effect

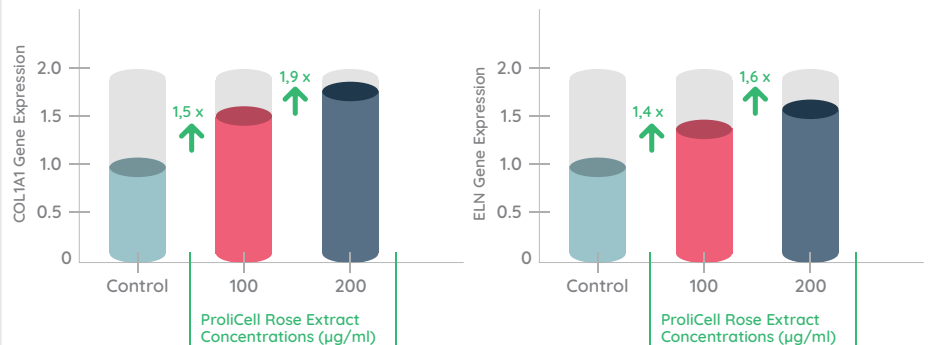


Protein Expression Assays



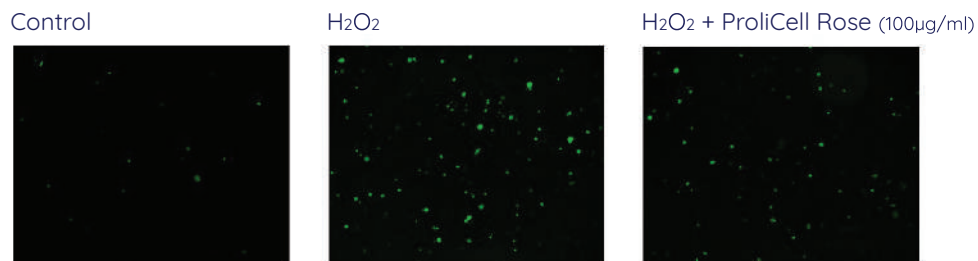
ProliCell Rose strengthens connective tissue by increasing Pro-collagen type 1-C peptide synthesis.

Gene Expression Analysis Associated with Anti-Aging Activity



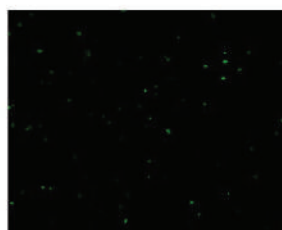
ProliCell Rose strengthens the connective tissue by stimulating elastin and collagen synthesis.

Quantification of Intracellular ROS

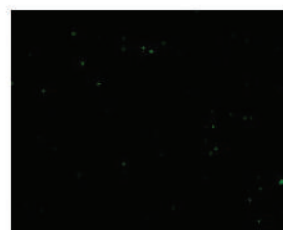


● Intracellular ROS

H₂O₂ + ProliCell Rose (200µg/ml)



H₂O₂ + ProliCell Rose (400µg/ml)



ProliCell Rose protects the skin against oxidative stress caused by environmental pollutants by reducing the amount of ROS (Reactive oxygen species) for the cell.

Activity Tests

In vitro Tests

Cell Line: Human normal keratinocyte cell
Test Ingredient: 100 and 200 µg/ml ProlCell Rose- 600 µM H₂O₂
Parameter: Analysis of TXRND1, GSTP1, NQO1 and HMOX1 genes expression by RT-qPCR

For gene expression analyses, human normal keratinocyte cells were incubated with ProlCell Rose concentrations for 24 hours.

Nrf2



Control 200 µg/mL 200 µg/mL 200 µg/mL

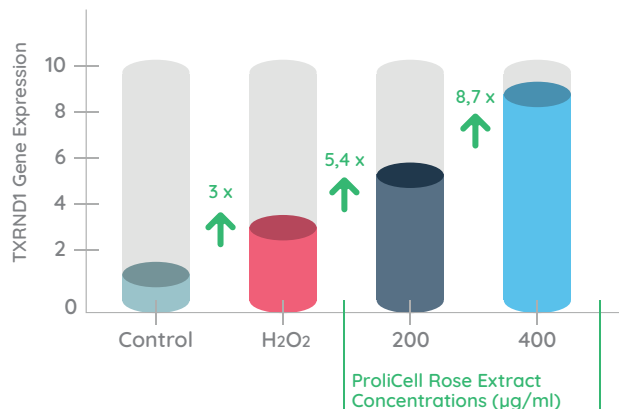
ProlCell Rose Extract

EV

Small RNA
Enriched EV

ProlCell Rose increases Nrf2 protein synthesis. It was concluded that when ProlCell Rose and EVs were used together, Nrf2 protein synthesis increased depending on the small RNA concentration.

Expression Analysis of Antioxidant Mechanism-Related Genes



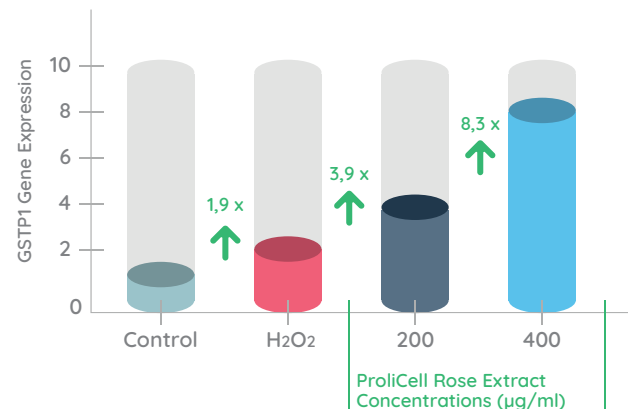
H₂O₂ (600µM)

-

+

+

+



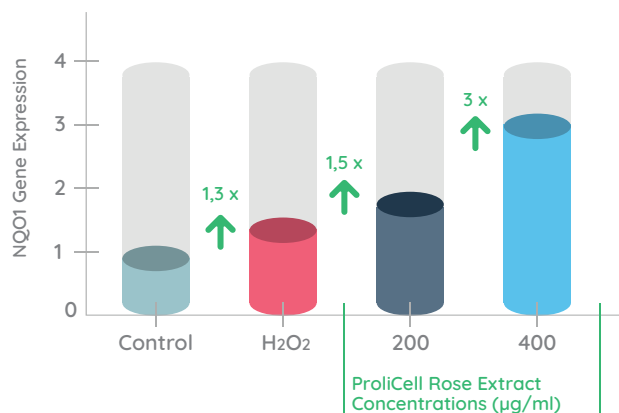
H₂O₂ (600µM)

-

+

+

+



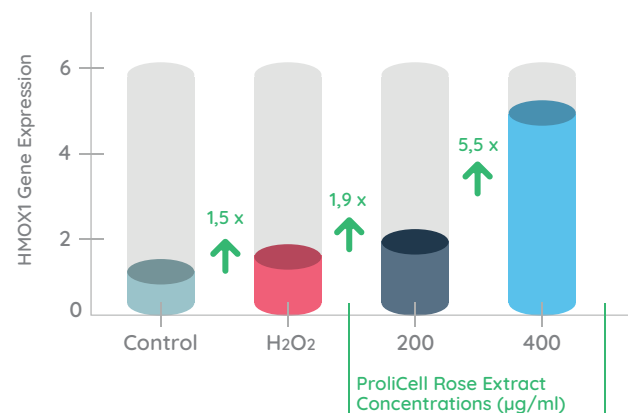
H₂O₂ (600µM)

-

+

+

+



H₂O₂ (600µM)

-

+

+

+

ProlCell Rose activates the cell antioxidant and detoxification mechanism against environmental pollutants.

Effective Defense Against Urban Pollutants



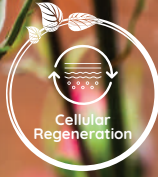
Anti
Pollution



Elasticity
Enhancer



Anti
Aging



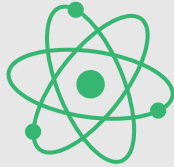
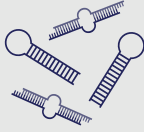
Cellular
Regeneration



Antioxidant

Effect Mechanisms

- Anti-pollution
- Anti-aging
- Elasticity Enhancer
- Cellular Regeneration
- Antioxidant



Cosmetic Uses

- Anti-pollution Products
(Face and Skin Care Products)
- Anti-aging Products
(Face and Skin Care Products)



ProlCell Rose DW (Disperses in water)

INCI Name: Glycerin, Rosa Damascena
Flower Extract, Xanthan Gum

ProlCell Rose WS (Water-soluble)

INCI Name: Glycerin, Rosa Damascena
Flower Extract, Sodium benzoate,
Potassium sorbate

Usage rate: 2-5%

pH: 4.0-7.0



Features

Origin: Herbal

Appearance: Viscous cell lysate suspension

Color: Brown

Fragrance: Characteristic

Usage: Add below 40°C in cold-hot
processes.

